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REMARKS

Claims 1-20 are pending in the present application. In the Office Action mailed March 10, 2005, the Examiner rejected claims 1-5, 7, 11-13, 15-16, and 18-19 under 35 U.S.C. §102(b) as being anticipated by Carkhuff (USP 5,681,489). The Examiner next rejected claims 6, 8-10, 14, 17, and 20 under 35 U.S.C. §103(a) as being unpatentable over Carkhuff.

REJECTIONS UNDER §102(b)

The Examiner simultaneously rejected claims 1-5, 7, 11-13, 15-16, and 18-19 by summarily concluding that Carkhuff “clearly anticipates” every element of claims 1-5, 7, 11-13, 15-16, and 18-19. To anticipate a claim, the reference must teach each and every element of the claim. See MPEP § 2131. However, when simultaneously addressing all of the elements of claims 1-5, 7, 11-13, 15-16, and 18-19, the Examiner only provided two conclusory sentences to support the rejection. In particular, the Examiner stated that “the handle in Carkhuff contains both a trigger, which is part of the starting circuit, and a pressure switch 86 which sends an electrical signal to the controller to start the pilot arc, as claimed. See column 8.” and “As per claim 4 means 86 is located in the handle.” However, Examiner’s Note 7.15 from MPEP §706.02(i) states that accompanying a statement such as “clearly anticipated” or “anticipated,” must be “an explanation at the end of the paragraph.” MPEP §706.02(i). The Examiner’s conclusions do not meet this burden. Additionally, Applicant believes one of ordinary skill in the art will readily acknowledge numerous distinctions between the current invention and the art cited by the Examiner.

Regarding claim 1, the claim, in part, calls for a plasma cutting torch that includes “a plasma cutter starting circuit.” The Examiner apparently concluded that such was “clearly anticipated” because Carkhuff teaches a “control switch 35” and/or a “pressure switch 86.” In particular, it appears that the Examiner concluded that the control switch 35 and the pressure switch 86 are part of a “starting circuit” because they work to cause a controller to start a pilot arc. However, as one of ordinary skill in the art will readily recognize, even if the control switch 35 and the pressure switch 86 are inputs to a circuit that results in initiating a pilot arc, such is not a “plasma cutter starting circuit,” as claimed.

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In particular, as one of ordinary skill in the art will readily recognize and as clearly defined in the Specification, a plasma cutter starting circuit is not merely a means to communicate to a power source that power should be delivered to the plasma cutter torch, as is the case with the control *switch* 35 and pressure *switch* 86 of Carkhuff. Rather, as clearly explained in the Specification, “the power source 12 delivers normal operational power to the torch 16 upon initiation and the HF starting circuit of the torch 16 provides the voltage necessary to generate the pilot arc that is required to begin the plasma cutting process.” ¶[0024] (emphasis added). Therefore, the Specification clearly defines that a starting circuit includes elements configured to receive “normal operational power” and convert that power to have “the voltage necessary to generate the pilot arc that is required to begin the plasma cutting process.” *Id.*

Nowhere does Carkhuff teach or suggest the inclusion of a circuit disposed in the plasma torch body that is configured to “generate a pilot arc signal and deliver the pilot arc signal to the output electrode to cause generation of a pilot arc,” as claimed. Carkhuff does not teach a circuit in the torch body that is configured to provide “the voltage necessary to generate the pilot arc that is required to begin the plasma cutting process.” ¶[0024]. Rather, at best, Carkhuff suggests that any elements configured to provide the voltage necessary to generate the pilot arc that is required to begin the plasma cutting process be included in the power source. However, claim 1 calls for the starting circuit to be “disposed in the torch body.” The Examiner apparently concluded that Carkhuff “clearly anticipates” this element merely because it teaches that the “control switch 35” may be disposed in the plasma torch body 20. However, as shown above, one of ordinary skill in the art will readily recognize that the control *switch* 35 is not a starting circuit configured to “generate a pilot arc signal and deliver the pilot arc signal to the output electrode to cause generation of a pilot arc,” as claimed.

For at least these reasons, claim 1 is patentably distinct from the art of record. Furthermore, claims 2-11 are in condition for allowance at least pursuant to the chain of dependency. However, as claims 2-11 include subject matter that is additionally distinguishable over the art of record and that serves to further illustrate the distinctions set forth above, Applicant will take the opportunity to highlight some of these points.

For example, claim 5 calls for the plasma cutter starting circuit to be “configured to supply a high-frequency, high-voltage power to the output electrode independent of a starting configuration of a plasma cutter power source to which the torch is connected.” (Emphasis

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added). The Examiner did not address that which is called for in claim 5. However, Carkhuff does not teach or suggest any "starting circuit" that is capable of supplying "a high-frequency, high-voltage power to the output electrode" "independent of a starting configuration of a plasma cutter power source to which the torch is connected." That is, as called for in claim 5, the starting circuit is configured to perform a high-frequency (HF) start even if the power source is configured for contact starts. Nowhere does Carkhuff teach or suggest any starting circuit that is capable of supplying "a high-frequency, high-voltage power to the output electrode" "independent of a starting configuration of a plasma cutter power source to which the torch is connected."

Regarding claims 12 and 16, for at least the reasons stated above, Applicant believes that claims 12 and 16 are patentably distinct from the art of record. Accordingly, claims 13-15 and 17-20 are in condition for allowance at least pursuant to the chain of dependency.

REJECTIONS UNDER §103(a)

As shown above with respect to claim 5, Carkhuff does not teach or suggest any starting circuit that is capable of supplying "a high-frequency, high-voltage power to the output electrode" "independent of a starting configuration of a plasma cutter power source to which the torch is connected." Additionally, claim 9 calls for the plasma cutting torch to be "operable with a power source configured for a contact start plasma cutter." As such, when addressing claims 6, 8-10, 14, 17, and 20, the Examiner apparently attempted to address this element by stating, "Use of contact start is an obvious choice since this type of start and high frequency start are the only two ways of pilot arc generation and both are very conventional." However, it appears that the Examiner has misunderstood that which is claimed. Applicant did not merely claim a system that is capable of either a HF start or a contact start but instead a system that is capable of performing a HF start even if the power source is configured for a contact start. This distinction is important to understanding the invention. Nowhere does Carkhuff address any starting configuration, be it HF or contact. As such, Carkhuff clearly does not teach or suggest a "starting circuit" that is capable of supplying "a high-frequency, high-voltage power to the output electrode" "independent of a starting configuration of a plasma cutter power source to which the torch is connected." as called for in claim 5. (Emphasis added). Similarly, Carkhuff clearly does not teach or

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suggest that the plasma cutting torch be “operable with a power source configured for a contact start plasma cutter,” as called for in claim 9.

Additionally, claim 10 calls for the plasma cutter starting circuit to be “disposed within a robotic plasma cutting torch.” While Applicant does not contend that robotic plasma cutters are by themselves novel, nowhere does Carkhuff teach or suggest any robotic plasma cutter torch including a plasma cutter starting circuit. To the contrary, the plasma cutter system disclosed by Carkhuff would be undesirable in a robotic plasma cutter because the “control switch 35” is located in the torch. As such, in the case of a robotic plasma cutter, an operator would be required to travel to the torch to initiate or discontinue the flow of gas. This point further exemplifies that the switches 35, 86 of Carkhuff clearly are not “plasma cutter starting circuits” as called for in the claims, understood by those skilled in the art, and defined in the Specification.

Finally, while still addressing the rejection of claims 6, 8-10, 14, 17, and 20 as unpatentable under §103, the Examiner contended that the “trigger” or control switch 35 of Carkhuff is equivalent to the claimed starting circuit because Carkhuff states that “[h]andle portion 31 further comprises a control switch 35 for activating the torch 10, in the manner further described below.” Col. 5, lns. 52-54. However, Carkhuff clarifies this statement by disclosing, “When the operator depresses the control switch 35, a low voltage electrical circuit in the power source is closed.” Col. 7, lns. 7-9 (emphasis added). In particular, Carkhuff teaches that in response to depression of the control switch 35, “[t]he electrical circuit opens a solenoid positioned in the power source such that means 70 supplies a pressurized flow of gas through passageway 74 in conduit 72 to the bore 24 in head portion 21.” Col. 7, lns. 9-12 (emphasis added). Therefore, Carkhuff teaches that the control switch 35, which is actually disposed in the plasma torch, is configured to communicate with a circuit that is disposed in the power source to control the flow of gas to the plasma torch. Therefore, the “trigger” cited by the Examiner is clearly not a “starting circuit” disposed in the torch body, as claimed, because the control switch 35 does not initiate plasma cutting but controls gas flow. Furthermore, there is no teaching or suggestion to conclude that any circuit that may be configured to provide “the voltage necessary to generate the pilot arc that is required to begin the plasma cutting process” would be disposed elsewhere than in the power source with the “solenoid positioned in the power source.” Col. 7, lns. 9-12.

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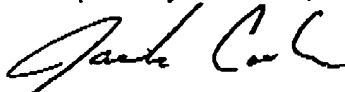
Similarly, the Examiner cited the pressure switch 86 of Carkhuff as suggesting the transmission of "an electrical signal to the controller to start the pilot arc, as claimed." The Examiner, without a supportive citation, concluded that "means 86 is located in the handle." However, this is clearly incorrect. In particular, Figs. 2, 3, and 7 clearly show that the pressure switch 86 is not disposed within the torch body 20. In particular, Carkhuff discloses, "Conduit 82 originates in head portion 21 of torch body 20 at electrode holder 23 and terminates at a pressure switch 86." Col. 6, ln. 66 to col. 7, ln. 1. Therefore, Carkhuff seems clear that the pressure switch 86 is not "located in the handle," as the Examiner concluded.

For at least these and the above articulated reasons, claim 16 is patentably distinct from the art of record. Additionally, claims 17-20 are in condition for allowance at least pursuant to the chain of dependency.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-20.

Applicant appreciates the Examiner's consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



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